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ABSTRACT

The paper first reviews previous studies made of the causes of schizophrenia as seen by mental health professionals in Western countries and in the Third World. The study at hand focuses on infantile autism and how it is viewed by professionals in the United States and Europe. Questionnaires addressed issues, characteristics and etiology, (genetic-organic, environmental-physical, and social-familial factors). Analysis of questionnaire responses indicated that professionals in the United States, regardless of discipline, are more convinced that organic/genetic factors are responsible for autism than European professionals are. U.S. professionals also gave greater importance to environmental factors than did the Europeans. Europeans were more likely than Americans to suggest parental psychopathology as a factor in autism. (CL)

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A TRANSNATIONAL SURVEY OF MENTAL HEALTH PROFESSIONALS IN THE UNITED STATES AND EUROPE ON THE ETIOLOGY OF INFANTILE AUTISM

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A Transnational Survey of Mental Health Professionals on the Etiology of Infantile Autism

Victor D. Sanua*

The purpose of this paper is to examine the causes attributed by psychiatrists, psychologists and other professionals in the United States and Europe to infantile autism.

There is an extensive literature of studies conducted in the Western world, as well in developing countries, (Nunnally, 1961, Lemkau and Crocetti, 1962, Leighton et al., 1963, Jaeckel and Weiser, 1970, Graves, 1971, Rogan et al., 1973, Gallagher III, 1975, Townsend, 1975, 1978, Erinosko and Ayonrinde, 1978) on the opinions held by laymen as well as mental health workers on the etiology of mental illness, and specifically schizophrenia, but no surveys on infantile autism.

The present study was influenced by two earlier research studies whose purpose was to obtain the opinion of psychiatrists on the schizophrenic syndrome. In 1963, Murphy, Wittkower, Fried and Ellenberger of McGill University conducted a survey which consisted of mailing a questionnaire to 120 psychiatrists around the world. It included a list of 26 symptoms. The main goal of the enquiry was to establish the direction in which the patients' cultural background influenced their symptomatology. Their findings showed that the reported distribution of the schizophrenic

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symptoms varied in association with social and cultural factors. For example, there was a high percentage of simple and catatonic sub-types of schizophrenia in certain Asian samples and a low percentage of the paranoid sub-type. In general, it was found that the delusional system which is the most familiar feature of chronic schizophrenia in Euro-American hospitals was rarely found in developing countries, and the authors wondered whether it is an essential part of the disease process. They hypothesized that delusion could be "culturally conditioned attempts by the personality to 'make sense' of that process, attempts which Eastern cultures inspire to a much lesser degree." (p. 249)

The second study was conducted on a larger scale by Rogan, Dunham, and Sullivan (1973). Their questionnaire included an item about etiology. While the earlier study was interested in identifying the frequency of various symptoms selected in different parts of the world for diagnosing schizophrenia, the second study focused on the importance which psychiatrists assign to different symptoms, besides asking them to rate the importance of major factors which lead to schizophrenia.

Rogan et al. (1973) found, on the basis of the returns of 503 questionnairs which were mailed to 2286 psychiatrists practicing in 130 countries, that Central America and Caribbean psychiatrists consider deficient mother-infant

relationship of great importance while psychiatrists of Anglo-Saxon countries and Eastern European countries accord little priority to this factor in the etiology of schizophrenia. Parental psychopathology tends to be low in Great Britain and is considered very important in the Middle East. In dividing the areas as to the importance of biological versus social factors, the authors point out that most psychiatrists in Europe and Africa give priority to biological factors while most psychiatrists in Asia and in the Americas give more importance to social factors. The USA is included in the Americas. This response from the USA seems at the outset rather puzzling, since in the last two decades, it was assumed that because of the extensive use of drugs, more and more importance is given to biological factors as compared to social factors. The dominance of psychoanalytical thinking in the post-war years had probably made social factors more dominant, but it seems that the pendulumm had gone in the opposite direction towards a more organic explanation of the disease.

However, one basic problem with the above survey is that approximately 22 percent of the questionnaires were returned with a wide range, from 60 percent from Australia and New Zealand to 11 percent from South America. It is possible that there was a highly selective factor which might have influenced the results. A higher percentage of psychiatrists, who are socially-oriented regarding the

origins of schizophrenia, could possibly have responded to the questionnaire mailed to them by the major author who is a sociologist.

Gallagher (1977) wanted to investigate the attitudes of psychiatrists towards the various etiological theories of schizophrenia. He selected a random sample of every 20th name, of members of the American Psychiatric Association. His response rate was 41 percent (422 out of 1020). However, only 26 percent were usable, since many respondents overlooked the rating system, others left parts of the questionnaire unanswered, while "others took personal offense at the nature of survey research." (p. 101) The 262 psychiatrists labeled themselves as psychoanalysts (109), eclectics (71) behaviorists (55) and no preference (27).

It was indicated earlier that a major selective factor could enter into play as to who responds to such questionnaires. Forty percent of the respondents in this study identified themselves as psychoanalysts. It is very doubtful that this is a fair representation of the distribution in the orientation of psychiatrists who are members of the American Psychiatric Association.

He found that for the overall sample, there was no preference for either biogenic or psychogenic views. The overall score for the biogenic views (biochemical imbalance, recessive gene, neural defect, dominant gene, perinatal difficulties and blood type effect) is 2.39, while

the grand mean for psychosociogenic factors (11 in this study) is 2.36. Of the 17 etilogies, four seem to be dominant: 1) social isolation, 2) cognitive breakdown, 3) biochemical imbalance and 4) maternal deprivation. From a rank order point of view, there seems to be a domination of psychogenic over biogenic views. The author (Gallagher) attributes this trend to the "greater representation of environmental variables in the established literature." (p. 101) He is somewhat puzzled that the "double bind," "genetic" and "oral fixation" hypothesis, while "supported" with "impressive empirical evidence" are given very little value by psychiatrists. The author (Sanua) does not agree with either of the above statements. The scientific evidence for either psychogenic or biogenic etiology of schizophrenia is still highly speculative and hardly "supported with impressive empirical evidence" (p. 101) as indicated by Gallagher.

It is surmised that Gallagher's study could be slanted in view of the large number of self-identified psychoanalysts. As expected, he found that the eclectics and those with no particular identification regard the biochemical imbalance in schizophrenia more important than psychoanalysts. The setting seems to have great influence. Those in private practice emphasize the "double bind" while those working in a psychiatric setting, full-time, deemphasize this explanation. Another interesting finding is

that the length of one's psychiatric experience does not seem to have any influence on one's etiological viewpoints. Thus since experience is related to age, it could be stated that there does not seem to be an intergenerational difference among members of the American Psychiatric Association regarding the etiology of schizophrenia.

While some reservations could be made about the validity of Gallagher's study, because of the small returns (20%), the next study to be reviewed seems to support the general opinion of the wide acceptance of the psycho-sociogenic point of view since there was almost a 100 percent return in this study.

Siegler and Osmond (1966) developed six models on the etiology of schizophrenia, medical, moral, psychoanalytic, fami. interaction, constitutional and social. Later an additional model was added "psychodelic" (Siegler, Osmond and Mann, 1969) to cover the views of R. D. Laing. An amended structured questionnaire was mailed to 135 psychiatrists who treated schizophrenia patients in Monroe County, New York and worked in various institutions and in private practice. Surprisingly there was a 98 percent return. The reason is that the researcher knew every psychiatrist in the county. The respondent included 27 State hospital psychiatrists, 42 university hospital residents, 22 full-time faculty psychiatrists, 20 institutional and 21 psychiatrists primarily in private practice. Only 9 of this group labeled

tehmselves as psychoanalysts. The means of questionnaire rating for the variables were found to be as follows:

Genetics 2.2

Psychodynamic 2.1

Family-learning 2.1

Biochemical-neurological 1.8

Existential 0.8

The highest correlations were found between the existential and social (.33), existential and family-learning (.31), biochemical-neurological and genetics (.30). The latter two are not related to any other.

Thus it would seem that clinicians incorporate two major views regarding the causes of schizophrenia, the psychodynamic and the biochemical-neurological perspective and neither seems to dominate their thinking. It is to be noted that a very small number of psychiatrists (9) had labeled themselves as psychoanalyst.

The next study to be reviewed (Townsend, 1978) included high school students (n=728 in USA and n=552 in Germany) besides mental Hospital staff. Hospital staff in the USA (N-79) and Germany (N-102) were made up primarily of psychiatrists and residents (58% in Germany and 60 percent in the USA.

The USA sample included 25 percent of psychiatric technicians. The data was obtained with the use of Nunnally's 60 item information Questionnaire which was

administered in both countries; Townsend subjected the data to factor-analysis.

The analysis seems to indicate that the Germans, relative to the Americans, think of the psychiatrist as a "fatherly" teacher. The German staff, compared to other groups, rejected the notion that psychiatrists should try to show the patients where their ideas are incorrect. Thus there was no communication function involved in their profession. The American group tended to endorse the notion that people could affect their mental health by personal effort and self-control.

Because of the German psychiatric tradition, they tend to view that mental disorders are endogenous in origin, relatively incurable and less subject to environmental influences than do Americans.

It was found that the laymen in each country - USA and Germany - reflected the conceptions of mental disorders which were found among the professionals in their two respective countries. This it would appear that the opinions of the laymen about mental illness are highly influenced by the profession.

Townsend tried to relate the different conceptions to the national character of the two countries. It would seem that themes of self-reliance, personal effort and environmental influences, which are dominant in American culture, are reflected in the people of the United States, and would

attribute the potential for these tendencies in the mentally ill.

To this writer, the etiology of infantile autism seemed to be less polemical than the etiology of adult schizophrenia. The general view is that the illness starts so early in life that environmental factors can only have a minor role. However, during the past decade, the notion that the baby is a "blooming, buzzing bundle of confusion" (William James) seems to be weakened by the studies of developmental psychologists and psychiatrists. Their research has discovered a high sensitivity of neonates soon after birth. (Klaus and Kennell, 1982, Sanua, 1981) The purpose of this research was to replicate Rogan et al's study, and also to obtain opinions on infantile autism and, in addition to psychiatrists, include psychologists and other professional workers.

PROCEDURE

After an intensive review of the literature, it was concluded that there are 11 major etiological factors which could be implicated in infantile autism. To these 11, the author added a 12th one, cultural factors* which are hardly mentioned in the literature. The questionnaire also included other items about infantile autism which have remained polemical until today such as the socioeconomic status and the intelligence of the parents of these autistic children, whether the illness is a variant of childhood schizophrenia, their ranking among their siblings, the intactness of their perceptual abilities, etc.

Approximately 500 questionnaires were mailed to psychiatrists, psychologists and other professional, such as speech therapists, teachers, social workers, who were attached to institutions, who treated autistic children or to professionals who had published within the last five years. However, since some of these professionals might not be confident in their ability to answer highly polemical questions, they were nevertheless encouraged to respond with the following words:

> There are numerous controversies regarding the etiology of psychoses in children. The following questions touch on some of these controversies, with special reference to infantile autism and childhood schizophrenia. Please respond to these questions to the best of your ability. Some of you may not have had too much experience with psychotic children, but we are interested in getting your views on the subject. Please feel

*See Sanua (1981, 1981a) for the justification for this addition.

free to make any comments, in English, French, Spanish, Italian, or German.

It was possible to obtain complete listings from England, Germany, Belgium and the USA of institutions dealing with autistic children. Questionnaires were mailed to all those included in the listings in Great Britain, Germany and Belgium. In view of the large number of such institutions in the USA, every fifth name in the list was selected. Names of professionals in Europe, e.g. Holland, France, Italy, Switzerland, were obtained from major universities and institutions which were visited by the author in the course of two summers 1980 and 1981. Names of specialists from other countries wre obtained through correspondence and a listing received from Dr. Bernard Rimland.

It should be noted that we obtained very few names from the Scandinavian countries. In a literature search which provided approximately 1000 articles on infantile autism, nine of them were written by Scandinavian specialists, but none of these articles dealt specifically with autistic children. To support our feelings that autism is either rare or not recognized in the Scandinavian countries, we shall quote from one of our correspondents from Sweden:

> "In Sweden there is very little research in clinical child psychology and child psychiatry, and about autism and childhood psychoses even less. As far as I know there are only two research projects in childhood psychoses at this time in Sweden. One of them is the project which I myself have started; the other is a project in Uppsala which is led by psychologist Einar Jakobson,

Kronasens s ukhus, Ulleraker, 750 17 UPPSALA 17, SWEDEN. Mr. Jakobson has mainly worked with the epidemiological problems about childhood psychoses and autism...

So we are working on this problem but what I have written has not appeared as abstracts. And of course we use the diagnosis autism. I think that this answer applies to Norway and Denmark as well. Research is rare in clinical child psychology and psychiatry in Scandinavia."

Regarding Asian, Middle East, Mediterranean and Latin American countries, we obtained a few isolated cases of respondents. The following are are some responses which we obtained from major psychiatrists residing in India, Peru, and Kuwait, respectively:

"So sorry for the delay in answering your questionnaire. My experience on the subject of autism is rather limited. I see children mostly as out-patients in a general hospital psychiatric O.P.D. As for your theory of linking high technology with autism - I must say, the best case I have seen is an Indian child was the son of a highly gifted Indian couple living in the USA! However, I have seen a few others from ordinary middle class families in Calcutta. I can't recall offhand (my memory is rather good for odd and unusual cases) any very poor or village children with childhood psychosis.

On the whole I will tend to agree with your theory, on the basis: more technology - more alienation - more disruption of firsthand communication process - more psychosis (given some vulnerability, probably genetic). That we find lesser prevalence of severe disabling psychoses in our countries support your theory, that is, overwhelming stress (in our case, poverty) does not alone increase the rates for psychoses. There is probably a survival mechanism which operate against the maladaptive processes 'in extremis.' Anyway, that is my theory to account for the negative correlation between poverty and psychosis tht I found in a mental health survey in Calcutta."

* * * *

"As I said before my experience with childhood psychoses is limited. Most of my psychotic patients were associated with cerebral pathology. However I have published a paper on childhood primary psychoses (not autism) which could be sent to your laboratory if you are interested.

I have talked with Dr. Emilio Majluf, the most experienced child psychiatrist in this country. He said that in 24 years of professional experience in this country he has only seen three cases of infantile autism. One has been followed up for many years with a most unfavourable course.

There are other persons who claim to have diagnosed and treated this kind of patients in Peru but they have not reported their observations in scientific journals and he gives them very little credit. It seems that many children with communicative problems, due to neurological illness, are confused with Kanner's syndrome and labeled infantile autism."

* * * *

"As you expected, cases of infantile autism are very few in this part of the world. I saw none during one year I spent in Kuwait. I am sorry that the very few cases I saw in another Arabian Gulf country (Qatar) and in Egypt during my practice totalling fifteen years do not help me to answer the questions posed by your questionnaire.

With best wishes."

They all seem to indicate that the illness appears to be fairly rare in those countries. A psychiatrist from Venezuela who had organized a treatement center for seriously impaired children, made the following comments on the returned questionnaire which she completed:

> "In a group of 100 autistic children, we have only one case typical of Kanner. In Venezuela we have only one center for autistic children. Our organization was founded two years ago."

Our present initial analysis is based upon 280 questionnaires which were returned from three groups of professionals in two major geographical areas, the USA and Europe. Respondents from other areas were too few in number to make any kind of analysis meaningful. However, it is hoped that with further returns, it will be possible in the future to include professionals from other countries as well, particularly those working in developing countries. If the 12 causes are categorized, we obtain three major subdivisions, as follows:

1. Biological/Genetic
   a. Genetics
   b. Organicity
   c. Constitutional
   d. Metabolic
2. Environmental/Physical
   a. Viral infection
   b. Birth complications
   c. Pollution, diet, environmental hazard
3. Environmental/Social-familial
   a. Parental Psychopathology
   b. Disturbed family interaction

c. Deficient mother-child relationships

d. Cultural factors

One etiology which was difficult to place since it would depend upon the orientation of the respondent is receptive disorder. We shall discuss at a later point the problem of classifications of this etiology.

GENERAL BIOLOGICAL FACTORS

We shall discuss the biological factors in infantile autism. In his original article in 1943, Kanner had concluded the following:

> We must...assume that these children have come into the world with innate inability to form the usual biologically provided affected contact wtih people, just as other children come in the world with innate physical or intellectual handicaps. If this assumption is correct a further study of our children may help to furnish concrete criteria regarding the still diffuse notions about the constitutional components of emotional reactivity. For here we seem to have pureculture examples of - inborn autistic disturbances of affective contact. (p. 250; italics in the original text)

However, his reference to "refrigerated" parents appeared in subsequent papers (1949, 1954). In the fourth Edition of his well known book, Child Psychiatry (1973), he has the following to say about the importance of environmental factors:

> "Even from a purely statistical point of view, the correlation of childhood schizophrenia* with parental attitudes is far higher and more consistent than its correlation with heredity, configuration in the body, metabolic disorders, or any other factor....Even these few examples suffice to show how, regardless of the problems of heredity and constitution, life experiences have confused these children, made normal relationships impossible and driven them to withdrawal and schizophrenic behavior." (p. 707)

The above contradictory statements have led to a great deal of confusion in the literature as to to where Kanner stood on the question of etiology.

In a recent issue of the Journal of Infantile Autism and Developmental Disorders which he founded in 1971, three memorial articles were written by Schopler (1981), the present editor, by Chess (1981) and by Kanner's closest collaborator for years, Eisenberg. Following the demise of this pioneer, both Schopler and Chess, who are highly organic in their orientation (1981), emphasized Kanner's organic views on infantile autism while ignoring his statements where he implicates the environment.

We shall now present an analysis of the responses received which were included in the questionnaire.

1. Organic factors

An analysis of the responses on the organic factors in the etiology of infantile autism elicited one dominant

* It is interesting to note that Kanner includes the above section on autism under the childhood schizophrenia in spite of the fact that he felt that infantile autism is a separate disease (see Sanua, 1983, for a discussion of the history of the development of the concept.)

opinion among the professionals in the USA, as can be seen from Table I (a). If we combine somewhat important and very important in the USA, we find that 97 percent of psychiatrists, 86 percent of psychologists and 83 percent of "other professionals" believe that infantile autism is organically determined. There is however, a higher percentage of psychologists and other professionals who feel that organic factors are very important compared to psychiatrists (78%, 70%, 62%) and the differences are significant.

Europeans seem to give less importance to the organic etiology of infantile autism. 22 percent of psychiatrists, 36 percent of psychologists and 29 percent of other professionals in Europe feel that organicity is very important which is almost less than half of the percentages provided by their respective colleagues in the USA.

One general conclusion that can be drawn from the above findings and which was found to be consistent in the rest of the study is that there is a greater similarity of opinions among different professionals in the USA than with their respective counterparts in Europe. Thus, discipline does not seem to play any major role in influencing one's thinking on the subject of infantile autism. It should be added that psychologists and other professionals, particularly in the USA, tend to be more organically minded than the psychiatrists.

More Europeans either did not provide an answer or were more likely to indicate (particularly psychiatrists) that organic factors are not important. Differences between the USA groups and their European counterparts were found to be highly significant. (X^2=15.17)*

2. Genetic Factors

In Table I (b), we can examine the responses on genetic factors provided by the three groups of professionals. The third group, "other professionals" in the USA seemed to have the strongest opinion that infantile autism is genetically determined while psychologists believed least in its importance. Thus the group which is least involved in the biological sciences believes strongly in the genetic determination of the illness since 50 percent of them indicated that genetics are highly important.

Again, as in the case with organic factors, the European groups were more likely to leave this factor blank and less likely to attach importance to genetic factors compared to professionals in the USA. However, it is to be noted that there was no difference between the psychologists in the USA and the psychologists in Europe.* The difference between psychiatrists in the USA and Europe was highly significant. (chi^2=18.58, significant beyond 1% level.)

The fact that more than 35 percent of "other professionals" in Europe left that question blank, and this was consistent with their response in the other factors, could

* X^2= of 9.4 is significant at the 5% level.
X^2= of 11.3 is significant at the 1% level.

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TABLE 1: OPINIONS OF PSYCHIATRISTS, PSYCHOLOGISTS, AND OTHER PROFESSIONALS ON THE BIOLOGICAL/GENETIC ETIOLOGY OF INFANTILE AUTISM

	PSYCHIATRISTS		PSYCHOLOGISTS		OTHER PROFESSIONALS	
	U.S.A.	EUROPE	U.S.A.	EUROPE	U.S.A.	EUROPE
a. Organic Factor						
Did not answer	3	16	7	6	13	26
Not Important	0	21	7	11	4	3
Somewhat important	35	41	8	47	13	42
Highly important	62	22	78	36	70	29
	100%	100%	100%	100%	100%	100%
N =	31	63	45	36	45	31
X^2=	16.18		17.69		15.42	
b. Genetic Factors						
Did not answer	13	24	14	22	11	35
Not important	10	16	22	22	7	13
Somewhat important	48	44	36	44	31	32
Highly important	29	16	28	12	51	20
X^2=	100%	100%	100%	100%	100%	100%
	18.58		N.S.		10.81	
c. Metabolic Disorders						
Did not answer	16	35	4	22	18	42
Not important	26	25	54	28	33	6
Somewhat important	42	24	33	28	31	26
Highly important	16	16	9	22	18	26
X^2=	100%	100%	100%	100%	100%	100%
	13.69		10.83		10.54	
d. Constitutional Factors						
Did not answer	10	24	7	22	20	40
Not important	6	29	13	33	27	26
Somewhat important	39	37	38	33	35	22
Highly important	45	10	42	12	18	12
X^2=	100%	100%	100%	100%	100%	100%
	8.75*		14.09		N.S.	

Except for * (sig. at 5% level) all other chi squares significant beyond the 1% level.

possibly reflect more perplexity on their part in responding to questions of etiology, more so than any other group. This reticence was not found with their counterparts int the USA.

3. Metabolic Factors

Table I (c) provides the percentages of the responses specific to metabolic factors. Psychiatrists (58 percent) felt stronger about the importance of this factor than psychologists (42 percent) and "other professionals" (49 percent) when we combine the "slightly important" and the "very important."

Differences with their European counterparts (40, 52, and 50 percent) tend to be slight. As usual, a large percentage of Europeans left that question unanswered.

4. Constitutional Factors

In Table I (d), we have included the responses on constitutional factors. Here again the pattern seems to be similar as in the case of metabolic factors with some variations. Psychologists feel stronger about constitutional factors than metabolic factors (80 percent and 42 percent respectively). Under this rubric, there was no significant difference between the "other professionals" in the USA and in Europe. ($X^2=3.6$)

ENVIRONMENTAL-PHYSICAL

This set of factors, environmental-physical, contrary to the previous set of factors are attributed to environmen-

tal variables such as birth complications, viral infections and environmental hazard. The following are some of the findings regarding their etiological importance:

5. Birth Complications

Table II (a) provides the percentages of the responses obtained on this specific question. A large group of psychiatrists and psychologists in the USA subscribed to this factor more than the "other professional group" (81, 79, and 50 percent, mostly "somewhat important"). The largest difference between the professions is to be found between psychiatrists in the USA and psychiatrists in Europe. By combining "very important" and "slightly important," we obtain 81 percent for the former group and 47 percent for the latter. (x^2=11.6)

6. Viral Factors

The question of viral factors was influenced by the research conducted by Chess who found that mothers of autistic children had measles during the early pregnancy. Table III (b) provides the percentages obtained. "Other professionals" in the USA were the strongest group to believe in the importance of virus as a cause of infantile autism, 75 percent believe that it is "very important" and "slightly important." European psychiatrists seem to be least impressed wtih this causality (27 percent).

TABLE 2: OPINIONS OF PSYCHIATRISTS, PSYCHOLOGISTS, AND OTHER PROFESSIONALS ON THE ENVIRONMENTAL/PHYSICAL ETIOLOGY OF INFANTILE AUTISM

	PSYCHIATRISTS		PSYCHOLOGISTS		OTHER PROFESSIONALS	
	U.S.A.	EUROPE	U.S.A.	EUROPE	U.S.A.	EUROPE
a. Birth Complications						
Did not answer	6	33	10	17	15	40
Not important	13	20	11	22	35	15
Somewhat important	65	37	52	50	40	30
Highly important	16	10	27	11	10	15
	100%	100%	100%	100%	100%	100%
N_2=	31	63	45	36	45	31
X^2 =	116		N.S.		N.S.	
b. Viral Infection						
Did not answer	16	31	13	17	14	46
Not important	32	42	20	20	11	25
Somewhat important	29	24	38	47	33	22
Highly important	23	3	29	8	42	7
	100%	100%	100%	100%	100%	100%
X^2 =	10.73		N.S.		18.61	
c. Pollution, Diet, Environmental Hazzard						
Did not answer	16	36	13	28	25	44
Not important	61	54	55	50	33	30
Somewhat important	20	8	25	19	35	26
Highly important	3	2	7	3	7	0
	100%	100%	100%	100%	100%	100%
X^2 =	N.S.		N.S.		N.S.	
d. Receptive Language						
Did not answer	14	27	4	14	9	35
Not important	19	13	14	22	7	14
Somewhat important	19	43	38	33	35	16
Highly important	48	17	44	31	49	35
	100%	100%	100%	100%	100%	100%
X^2 =	12.9		N.S.		10.61	

All X^2 significant beyond 1% level

7. Pollution, Diet and Environmental Hazard

Compared to the other factors, this cause was found to be of least importance. (See Table II (c).) While there were no significant differences in the three groups, the trend was for the USA professionals to give more importance to this set of causation.

8. Receptive Language

This was included as an etiological factor because of Rutter (1977) who has emphasized that the major problem of the autistic child is that all problems seem to emanate from the fact that he has a language deficiency. With regards to etiological implications, Rutter prefers to remain non-commital since he acknowledges tht there is no basic evidence for this disturbance. He states his position on the subject with the following comments:

> "Although it is generally accepted that some type of cognitive deficit probably plays a crucial part in the genesis of autism, little is known about the biological basis of the deficit. The development of epileptic fits in adolescence, together with other evidence, strongly suggests some kind of organic brain dysfunction, at least in retarded autistic children. However, the nature of this dysfunction remains a matter of speculation.

Table II (d) provides the percentages of responses of the three groups. Both psychologists and other professionals in the USA seem to feel that language in autism is implicated (82% and 84% respectively), psychiatrists, to a lesser degree, (67%).

SOCIAL-FAMILIAL FACTORS

Four specific etiological variables were included in the questionnaire which would reflect a strong nurture bias such as

1. Parental psychopatholocy
2. Disturbed family interaction
3. Deficient mother-child relationships
4. Cultural factors.

The difference between 2 and 3 is that in the latter case the focus is strictly on the mother-child relatioonship, while in the former, the focus is on the whole family system, particularly the contribution of the father as he relates to his wife and children.

A whole literature has developed in this field starting with the "double bind" concept as developed by Bateson (1956) to Wynne's latest studies (1980). For an analysis of this literature from the cross-cultural perspective, the reader is referred to Sanua's review (1982).

Psychosocial factors

9. Parental Psychopathology

In view of the strong biological bias found in the earliest questions, it is not surprising to find a deemphasis on the importance of parental pathology among all of the professionals in the United States. As it can be seen from Table III (a), psychologists were highest (70 percent) in indicating that parental psychopathology had little to do with infantile autism. They were followed by psychiatrists (58 percent), and other professionals (47 percent).

Following a similar pattern, European professionals of the three groups tended to attribute parental pathology a greater degree of importance than their counterparts in the United States. 24 percent of European psychiatrists, 34 percent of European psychologists and 29 percent of "other European professionals" felt that parental psychopathology was of no importance, a percentage which is half of the percentage provided by psychiatrists, psychologists and "other professionals in in the United States.

Kanner had clearly stated that he has not been able to find serious mental illness among the parents of autistic children. However, he was convinced that the mental health of these parents was not optimal. He labelled them as being "refrigerated parents".

10. Disturbed family interactions

Here again, as can be seen from Table III (b), while almost half of the psychiatrists and half of the psychologists in the United States felt that disturbed family interactions were not important, approximately 25 percent of European psychiatrists and psychologists responded similarly. There is a deviation that needs to be stated, European "other professionals" did not differ from their U.S. counterparts,

TABLE 3: OPINIONS OF PSYCHIATRISTS, PSYCHOLOGISTS, AND OTHER PROFESSIONALS ON THE ENVIRONMENTAL/SOCIAL FAMILIAL ETIOLOGY OF INFANTILE AUTISM

	PSYCHIATRISTS		PSYCHOLOGISTS		OTHER PROFESSIONALS	
	U.S.A.	EUROPE	U.S.A.	EUROPE	U.S.A.	EUROPE
a. Parental Psychopathology						
Did not answer	6	22	4	16	16	36
Not important	58	24	70	34	47	29
Somewhat important	20	37	22	34	33	19
Highly important	16	17	4	16	4	16
	100%	100%	100%	100%	100%	100%
X^2 =	17.33		11.72		N.S.	
b. Disturbed Family Interaction						
Did not answer	10	21	4	17	20	35
Not important	48	24	53	31	26	26
Somewhat important	32	27	31	24	36	26
Highly important	10	28	12	28	18	13
	100%	100%	100%	100%	100%	100%
X^2 =	N.S.		N.S.		N.S.	
c. Deficient Mother-child Relationship						
Did not answer	6	25	7	16	9	35
Not important	52	21	60	28	62	23
Somewhat important	19	24	26	28	22	22
Highly important	23	30	7	28	7	20
	100%	100%	100%	100%	100%	100%
X^2 =	10.24		11.91		15.33	
d. Cultural Factors						
Did not answer	6	35	11	22	13	35
Not important	81	46	76	53	70	40
Somewhat important	10	13	9	19	13	14
Highly important	3	6	4	6	4	11
	100%	100%	100%	100%	100%	100%
X^2 =	11.47		N.S.		N.S.	

All X^2 significant beyond 1% level

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as pointing out the importance of disturbed family interactions. There was no significant difference between these two groups.

11. Deficient Mother-Child Relationships

Here again (Table III (c)) there was a great similarity in the three groups in the USA. 52% of psychiatrists, 60% of psychologists and 62% of "other professionals" did not find that deficient mother-child relationships should be implicated. However, here the "other professionals" in the USA depart from the way they answered the previous question. They were less inclined to attribute the problem to the mother-child relationships but more on the total family interaction.

12. Cultural Factors

As expected, cultural factors were found to be of least importance than any of the other variables as can be seen in Table III (d). The percentage of "not important" was found to be 81% for psychiatrists, 76% for psychologists and 70% for others in the USA. About 50% in the three European groups indicated that cultural factors are not important. This was to be expected in view of the lack of training of psychiatrists, psychologists and social workers in considering cultural factors as potentials for psychiatric dysfunctions in their curriculum of the respective schools.

SUMMARY AND CONCLUSIONS

The general finding of this cross-national survey is that, contrary to expectation, professionals in the United States, irrespective of discipline, are more convinced that infantile autism is caused primarily by genetic/organic factors when compared to European professionals.

Psychiatrists in the USA give priority to organic factors (97%), followed by constitutional factors (84%), genetic factors (77%), metabolic disorders (58%). With psychologists and other professionals in the USA the trend is about the same.

An analysis of the differences in responses on environmental factors, such as birth complications, viral infection, pollution and receptive language problems, shows again that professionals in the United States tend to give more importance to these factors than their European counterparts. In general, half of the Europeans believe in the importance of these factors as compared to professionals in the USA.

It is only when we deal with parental psychopathology that we find a reversal in trends. If we combine the "somewhat important" and "highly important," 35% of psychiatrists in the United States and 54% of psychiatrists in Europe indicate that parental psychopathology may be a factor in infantile autism. For psychologists, the percentages were 26% and 50% respectively. No difference was

found when "other professionals" in the USA and Europe were compared.

There are some contradictions in the findings. While 97% of the psychiatrists in the USA point out that organic factors are "somewhat" and "highly important" in the causation of infantile autism, 36% of them indicated that parental psychopathology might have some influence on the illness. Thus, while almost 100% of psychiatrists subscribe to an organic origin of the illness, still about one third of them are not willing to discount completely the parental contribution.

The 12th etiology which was added, "cultural factors," was found to be of leas importance. It is assumed that the respondents might have missed the implication of the question. For a discussion of the sociocultural aspects of infantile autism, the reader is referred to a number of papers published in this area (Sanua, 1981, 1982, 1983). It was already stated on the basis of some of the correspondence received by the writer that infantile autism may not be as frequent in developing countries as it is in highly developed countries. As an analogy, there is still some controversy about the universality of the existence of schizophrenia. In a review of the literature on the subject, Torrey (1973) concluded that "process" schizophrenia is found in all cultures which have been exposed to Western technology. He points out the need to conduct well-planned field surveys

of the prevalence among groups that are in varying stages of exposure to Western technology. Because of compressed distances and faster communication, such studies should be conducted very soon. He further adds, "but until the universal prevalence of schizophrenia becomes an open question, this task is unlikely to be undertaken. If we fail to do such studies, we run the risk of bypassing valuable clues to etiology." (p.)

In another review by Leff (1981) who discussed the most recent international research, particularly the International Pilot Study of Schizophrenia which was conducted in nine countries, he indicated that psychoses do indeed seem to be universal. However, he had a strong reservation in that none of these studies included a preliterate culture such as is found in New Guinea or among South American Indians.

In our review of the literature on the etiology of adult schizophrenia, it was indicated that psychiatrists in the USA are almost equally divided between the organic and the environmental/familial causality. It would seem that when it comes to infantile autism, the predominant opinion in the USA is that it is organically determined. This trend of opinion has probably been influenced by a number of factors; first, the disease seems to occur so early in life that environmental factors could not possibly have an impact on the neonate; second, since many brain-damaged children have been labeled autistic in the United States contrary to

Kanner's suggestions, many psychiatrists feel that the autistic features have been caused by organic factors. A third factor is that there seems to be considerable reluctance on the part of the diagnosticians to impose the onus of guilt on the parents of these children. Europeans seem to use the diagnosis of infantile autism more sparingly which may explain their lesser willingness to accept infantile autism as organically determined.

There seems to be another reversal of findings. It was indicated that Townsend (1978) found that German psychiatrists, as well as the laymen, believe that schizophrenia is a mental disoorder which is primarily endogenous and less subject to environmental influences. The opposite point of view was found in the United States. In our own research, European professionals were less inclined to believe that infantile autism is organically determined than their counterparts in the USA. However, some caution should be taken. In this study, we have combined professionals in all European countries while the Townsend study covered only Germany. It is hoped that with further returns of questionnaires from European countries, it will be possible to conduct a sub-analysis of the various areas in Europe. The findings in this paper are only preliminary. Future analyses well include the questionnaires returned from professionals in Third World countries.

In conclusion, different ideologies seem to influence

all professionals on either side of the Atlantic irrespective of discipline as to the causation of infantile autism. While journal articles and extended reviews (DeMyer, 1981) seem to support the organic point of view in the United States, European professionals tend to be either non-committal (large number of non-response) or more flexible about the causes of infantile autism. It seems that Freudian thinking, in spite of its past vicissitudes in Europe, has more influence on European specialists than an USA professional.

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